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[1]ENVIRONMENTAL ISSUES

Environmental issues are disintegrating effects of human activity on the biophysical environment. Environmental protection is a practice of protecting the geophysical environment on individual, organizational or governmental levels, for the benefit of both the environment and humans. Environmentalism, a social and environmental movement, addresses environmental issues through advocacy, education and activism.[1]

The carbon dioxide equivalent of greenhouse gases (GHG) in the atmosphere has already exceeded 400 parts per million (NOAA) (with total "long-term" GHG exceeding 455 parts per million) (Intergovernmental Panel on Climate Change Report). This level is considered a tipping point. "The amount of greenhouse gas in the atmosphere is already above the threshold that can potentially cause dramatic climate change. We are already at risk of many areas of pollution...It's not next year or next decade, it's now." The UN Office for the Coordination of Humanitarian Affairs (OCHA) has stated "Climate change is not just a distant future threat. It is the main driver behind rising humanitarian needs and we are seeing its impact. The number of people affected and the damages inflicted by extreme weather has been unprecedented."[2] Further, OCHA has stated:

Climate disasters are on the rise. Around 70 percent of disasters are now climate related – up from around 50 percent from two decades ago.

These disasters take a heavier human toll and come with a greater price tag. In the last decade, 2.4 billion people were affected by climate related disasters, compared to 1.7 billion in the previous decade. The cost of responding to disasters has risen tenfold between 1992 and 2008.

Destructive sudden heavy rains, intense tropical storms, repeated flooding and droughts are likely to increase, as will the vulnerability of local communities in the absence of strong concerted action.[3]

Environment destruction caused by humans is a global problem, and this is a problem that is on going every day. By year 2050, the global human population is expected to grow by 2 billion people, thereby reaching a level of 9.6 billion people (Living Blue Planet 24).[4] The human effects on Earth can be seen in many different ways. A main one is the temperature rise, and according to the report ”Our Changing Climate”, the global warming that has been going on for the past 50 years is primarily due to human activities (Walsh, et al. 20). Since 1895, the U.S. average temperature has increased from 1.3 °F to 1.9 °F, with most of the increase taken place since around year 1970 (Walsh, et al. 20)

[2]TYPES OF ISSUES WITH THE GREATEST IMPACT

IMPACT OF AGRICULTURE

The environmental impact of agriculture is the effect that different farming practices have on the ecosystems around them, and how those effects can be traced back to those practices. The environmental impact of agriculture varies based on the wide variety of agricultural practices employed around the world. Ultimately, the environmental impact depends on the production practices of the system used by farmers. The connection between emissions into the environment and the farming system is indirect, as it also depends on other climate variables such as rainfall and temperature.

There are two types of indicators of environmental impact: "means-based", which is based on the farmer's production methods, and "effect-based", which is the impact that farming methods have on the farming system or on emissions to the environment. An example of a means-based indicator would be the quality of groundwater, that is effected by the amount of nitrogen applied to the soil. An indicator reflecting the loss of nitrate to groundwater would be effect-based.[1] The means-based evaluation looks at farmers' practices of agriculture, and the effect-based evaluation considers the actual effects of the agricultural system. For example, means-based analysis might look at pesticides and fertilization methods that farmers are using, and effect-based analysis would consider how much CO2 is being emitted or what the Nitrogen content of the soil is.[1]

The environmental impact of agriculture involves a variety of factors from the soil, to water, the air, animal and soil variety, people, plants, and the food itself. Some of the environmental issues that are related to agriculture are climate change, deforestation, genetic engineering, irrigation problems, pollutants, soil degradation, and waste

Climate change and agriculture are interrelated processes, both of which take place on a worldwide scale. Global warming is projected to have significant impacts on conditions affecting agriculture, including temperature, precipitation and glacial run-off. These conditions determine the carrying capacity of the biosphere to produce enough food for the human population and domesticated animals. Rising carbon dioxide levels would also have effects, both detrimental and beneficial, on crop yields. Assessment of the effects of global climate changes on agriculture might help to properly anticipate and adapt farming to maximize agricultural production. Although the net impact of climate change on agricultural production is uncertain it is likely that it will shift the suitable growing zones for individual crops.

IMPACT OF DAMS AND RESERVOIRS

The environmental impact of reservoirs comes under ever-increasing scrutiny as the global demand for water and energy increases and the number and size of reservoirs increases.

Dams and reservoirs can be used to supply drinking water, generate hydroelectric power, increase the water supply for irrigation, provide recreational opportunities, and flood control. In 1960 the construction of Llyn Celyn and the flooding of Capel Celyn provoked political uproar which continues to this day. More recently, the construction of Three Gorges Dam and other similar projects throughout Asia, Africa and Latin America have generated considerable environmental and political debate.

A dam also acts as a barrier between the upstream and downstream movement of migratory river animals, such as salmon and trout.

Some communities have also begun the practice of transporting migratory fish upstream to spawn via a barge.

Rivers carry sediment down their riverbeds, allowing for the formation of depositional features such as river deltas, alluvial fans, braided rivers, oxbow lakes, levees and coastal shores. The construction of a dam blocks the flow of sediment downstream, leading to downstream erosion of these sedimentary depositional environments, and increased sediment build-up in the reservoir. While the rate of sedimentation varies for each dam and each river, eventually all reservoirs develop a reduced water-storage capacity due to the exchange of "live storage" space for sediment.[3] Diminished storage capacity results in decreased ability to produce hydroelectric power, reduced availability of water for irrigation, and if left unaddressed, may ultimately result in the expiration of the dam and river.

As all dams result in reduced sediment load downstream, a dammed river is greatly demanding for sediment as it will not have enough sediment. This is because the rate of deposition of sediment is greatly reduced since there is less to deposit but the rate of erosion remains nearly constant, the water flow erodes the river shores and riverbed, threatening shoreline ecosystems, deepening the riverbed, and narrowing the river over time. This leads to a compromised water table, reduced water levels, homogenization of the river flow and thus reduced ecosystem variability, reduced support for wildlife, and reduced amount of sediment reaching coastal plains and deltas.[4] This prompts coastal erosion.

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| **Class Schedule** | | | | |  | |
| **LESSON** | | **TOPIC** | | **ASSIGNMENT** | | **POINTS** | **DUE** | | |
| **1** | | **What is distance learning?** | | **Wiki #1** | | **10** | **March 10** | | |
| **Presentation** | | **20** |  | | |
| **2** | | **History & Theories** | | **Brief Paper** | | **20** | **March 24** | | |
| **Spring Break** | | | | | | | | | |
| **3** | **Distance Learners** | | **Discussion #1** | | **10** | | | **April 7** | |
| **Group Project** | | **50** | | | **April 14** | |
| **4** | **Media Selections** | | **Blog #1** | | **10** | | | **April 21** | |

IMPACT OF THE ENERGY INDUSTRY

 The environmental impact of the energy industry is diverse. Energy has been harnessed by human beings for millennia. Initially it was with the use of fire for light, heat, cooking and for safety, and its use can be traced back at least 1.9 million years.[3] In recent years there has been a trend towards the increased commercialization of various renewable energy sources.

Consumption of fossil fuel resources leads to global warming and climate change. In most parts of the world little change is being made to slow these changes. If the peak oil theory proves true, and more explorations of viable alternative energy sources are made, our impact could be less hostile to our environment.

Rapidly advancing technologies can achieve a transition of energy generation, water and waste management, and food production towards better environmental and energy usage practices using methods of systems ecology and industrial ecology

The scientific consensus on global warming and climate change is that it is caused by anthropogenic greenhouse gas emissions, the majority of which comes from burning fossil fuels with deforestation and some agricultural practices being also major contributors.[6] A 2013 study showed that two thirds of the industrial greenhouse gas emissions are due to the fossil-fuel (and cement) production of just ninety companies around the world (between 1751 and 2010, with half emitted since 1986).[7][8]

Although there is a highly publicized denial of climate change, the vast majority of scientists working in climatology accept that it is due to human activity. The IPCC report Climate Change 2007: Climate Change Impacts, Adaptation and Vulnerability predicts that climate change will cause shortages of food and water and increased risk of flooding that will affect billions of people, particularly those living in poverty.[9]

One measurement of greenhouse gas related and other Externality comparisons between energy sources can be found in the ExternE project by the Paul Scherrer Institut and the University of Stuttgart which was funded by the European Commission.[10] According to that study,[11] hydroelectric electricity produces the lowest CO2 emissions, wind produces the second-lowest, nuclear energy produces the third-lowest and solar photovoltaic produces the fourth-lowest.[11]

IMPACT OF EXCEEDED AND ILLEGAL FISHING

The environmental impact of fishing includes issues such as the availability of fish, overfishing, fisheries, and fisheries management; as well as the impact of fishing on other elements of the environment, such as by-catch. These issues are part of marine conservation, and are addressed in fisheries science programs. There is a growing gap between the supply of fish and demand, due in part to world population growth.[citation needed] Similar to other environmental issues, there can be conflict between the fishermen who depend on fishing for their income, and fishery scientists whose studies indicate that if future fish populations are to be sustainable then some fisheries must reduce or even close.[citation needed]

The journal Science published a four-year study in November 2006, which predicted that, at prevailing trends, the world would run out of wild-caught seafood in 2048. The scientists stated that the decline was a result of overfishing, pollution and other environmental factors that were reducing the population of fisheries at the same time as their ecosystems were being annihilated. Yet again the analysis has met criticism as being fundamentally flawed, and many fishery management officials, industry representatives and scientists challenge the findings, although the debate continues. Many countries, such as Tonga, the United States, Australia and Bahamas, and international management bodies have taken steps to appropriately manage marine resources.

Some fishing techniques also may cause habitat destruction.[citation needed] Blast fishing and cyanide fishing, which are illegal in many places, harm surrounding habitat.[citation needed] Bottom trawling, the practice of pulling a fishing net along the sea bottom behind trawlers, removes around 5 to 25% of an area's seabed life on a single run.[3] A 2005 report of the UN Millennium Project, commissioned by UN Secretary-General Kofi Annan, recommended the elimination of bottom trawling on the high seas by 2006 to protect seamounts and other ecologically sensitive habitats. This was not done.

In mid-October 2006, United States President George W. Bush joined other world leaders calling for a moratorium on deep-sea trawling, a practice shown to often have harmful effects on sea habitat and, hence, on fish populations.[citation needed] No further action was taken (Divek). the sea animals aquatic ecosystem may also collapse due to the destruction in the food chain

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